

Student Name:

Student id:

Sect #: Serial #:

University of Bahrain

Department of Computer Science

College of Information Technology

ITCS332: Concepts of Programming Languages

Quiz #1: Chapter 1

Fill in blanks Question:

- 1) Give two advantages of macros against functions.
 - *Programs with macros are more flexible than equivalent programs with functions (typeless parameters).*
 - *Programs with macros are faster in execution than equivalent programs with functions.*
- 2) Give two decisions made by designers to improve the reliability of JAVA language:
 - *Data type checking must be done during compilation.*
 - *Pointers are excluded from the language.*
 - *Index range checking must be done.*
- 3) Name two language features that affect the compilation time of programs in a language:
 - *Preprocessor macros.*
 - *Data type checking.*
 - *Optimization.*
- 4) Write C++ statements to illustrate aliases.

```
int x = 77;
int *px = &x;
cout << x << '\t' << *px << endl;
```
- 5) The Syntax analyzer accepts as input *a sequence of lexemes* and produces as output *a parse tree*.
- 6) A lexical analyzer accepts as input *a string of characters* and produces as output *a sequence of lexemes*.
- 7) Name two factors that influence the language design: *Computer Architecture* and *Programming Methodologies*.

Student Name:

Student id:

Sect #: Serial #:

University of Bahrain

College of Information Technology
Department of Computer Science

ITCS332: Concepts of Programming Languages

Quiz #1: Chapter 1

Fill in blanks Question:

- 8) A person who defines the syntax and semantics of a language is *language designer*.
A *language implementer* is a person who writes translators of programming languages.
- 9) Performing index-range checking improves the *reliability* of a language and increases the *execution times* of programs.
- 10) A semantics analyzer accepts as input *a parse tree* and produces as output *an intermediate code*.
- 11) The code generator accepts as input *intermediate code* and produces as output *machine code*.
- 12) The main bottleneck of compiling systems is *CPU_Main memory speed gap* and the main bottleneck of interpreting systems is *statement decoding*.
- 13) Name two language features that affect the execution time of programs in a language:
- *Preprocessor macros*.
 - *Data type checking*.
 - *Optimization*.
- 14) Name two language features that affect the overall simplicity of a programming language:
- *Feature multiplicity*.
 - *Number of constructs*.
 - *Operator overloading*.
- 15) Write C++ statements to illustrate aliases.
- ```
int x = 77;
int *px = &x;
cout << x << '\t' << *px << endl;
```